

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A piezoelectric single crystal having a complex perovskite structure, wherein the composition of the piezoelectric single crystal contains 35 to 98 mol% lead magnesium niobate  $[\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3]$  or lead zinc niobate  $[\text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3]$ , 0.1 to 64.9 mol% lead titanate  $[\text{PbTiO}_3]$ , and 0.05 to 30 mol% lead indium niobate  $[\text{Pb}(\text{In}_{1/2}\text{Nb}_{1/2})\text{O}_3]$ ; and calcium is substituted for 0.05 to 10 mol% lead in the composition.

2. (Canceled)

3. (Previously Presented) A piezoelectric single-crystal device having the polarization direction in a  $[001]$  direction of an ingot of the piezoelectric single crystal according to claim 1 and using an electromechanical coupling factor ( $k_{31}$ ) in a lateral vibration mode having the end face in a plane perpendicularly cutting a  $(001)$  plane containing a  $[100]$  direction and a  $[010]$  direction being approximately orthogonal to the polarization direction, wherein

when the  $[100]$  direction or the  $[010]$  direction is defined as  $0^\circ$ , a direction normal to the end face resides within  $0^\circ \pm 15^\circ$  or within  $45^\circ \pm 5^\circ$ .

4. (Previously Presented) A piezoelectric single-crystal device having the polarization direction in a  $[001]$  direction of an ingot of the piezoelectric single crystal according to claim 1 and using an electromechanical coupling factor ( $k_{31}$ ) in a lateral vibration mode having a direction normal to the end face of the single-crystal device in a  $[100]$  direction, a  $[010]$  direction, or a  $[110]$  direction being approximately orthogonal to the polarization direction, wherein

the direction normal to the end face of the single crystal resides in a solid angle of the [100] axis  $\pm 15^\circ$ , in a solid angle of the [010] axis  $\pm 15^\circ$ , or in a solid angle of the [110] axis  $\pm 5^\circ$ .

5. (Previously Presented) A piezoelectric single-crystal device having the polarization direction in a [001] direction of an ingot of the piezoelectric single crystal according to claim 1 and using an electromechanical coupling factor ( $k_{33}$ ) in a vibration mode in the direction parallel to the polarization direction, i.e., in a longitudinal vibration mode having the end face in a (001) plane, wherein

when the shortest-side length or the diameter of the device end face orthogonal to the polarization direction is defined as  $a$  and the device length in the direction parallel to the polarization direction is defined as  $b$ , the piezoelectric single-crystal device has the  $a$  and the  $b$  satisfying the relational formula  $b/a \geq 2.5$ .

6. (Previously Presented) A piezoelectric single-crystal device having the polarization direction in a [110] direction of an ingot of the piezoelectric single crystal according to claim 1 and using an electromechanical coupling factor ( $k_{33}$ ) in a vibration mode in the direction parallel to the polarization direction, i.e., in a longitudinal vibration mode having the end face in a (110) plane, wherein

when the shortest-side length or the diameter of the device end face orthogonal to the polarization direction is defined as  $a$  and the device length in the direction parallel to the polarization direction is defined as  $b$ , the piezoelectric single-crystal device has the  $a$  and the  $b$  satisfying the relational formula  $b/a \geq 2.5$ .

7. (Previously Presented) A 1-3 piezoelectric composite formed by arraying a plurality of the piezoelectric single-crystal devices according to claim 5 in such a manner that the device end faces orthogonal to the polarization direction reside in one plane.

8. (Previously Presented) A method for manufacturing the piezoelectric single-crystal device according to claim 3, the method comprising a polarizing process carried out before or after the cutting of an ingot of a piezoelectric single crystal having a complex perovskite structure wherein the composition of the piezoelectric single crystal contains 35 to 98 mol% lead magnesium niobate  $[\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3]$  or lead zinc niobate  $[\text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3]$ , 0.1 to 64.9 mol% lead titanate  $[\text{PbTiO}_3]$ , and 0.05 to 30 mol% lead indium niobate  $[\text{Pb}(\text{In}_{1/2}\text{Nb}_{1/2})\text{O}_3]$ ; and calcium is substituted for 0.05 to 10 mol% lead in the composition, into a single-crystal device material having a predetermined shape in a predetermined direction, wherein the single-crystal ingot or the single-crystal device material is polarized by applying a direct electric field of 350 to 1500 V/mm in the temperature range of 20 to 200°C in a direction to be polarized of the single-crystal ingot or in a direction to be polarized of the cut-out single-crystal device material; or applying a direct electric field of 350 to 1500 V/mm at a temperature higher than the Curie temperature ( $T_c$ ) of the single-crystal ingot or the single-crystal device material and then cooling to a room temperature while applying the direct electric field.

9.-15. (Canceled)

16. (Previously Presented) A 1-3 piezoelectric composite formed by arraying a plurality of the piezoelectric single-crystal devices according to claim 6 in such a manner that the device end faces orthogonal to the polarization direction reside in one plane.

17. (Previously Presented) A method for manufacturing the piezoelectric single-crystal device according to claim 3, the method comprising a polarizing process carried out before or after the cutting of an ingot of a piezoelectric single crystal having a complex perovskite structure wherein the composition of the piezoelectric single crystal contains 35 to 98 mol% lead magnesium niobate  $[\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3]$  or lead zinc niobate  $[\text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3]$ , 0.1 to 64.9 mol% lead titanate  $[\text{PbTiO}_3]$ , and 0.05 to 30 mol% lead

indium niobate  $[\text{Pb}(\text{In}_{1/2}\text{Nb}_{1/2})\text{O}_3]$ ; calcium is substituted for 0.05 to 10 mol% lead in the composition; and the composition further contains 5 mol% or less in total of at least one element selected from the group consisting of Mn, Cr, Sb, W, Al, La, Li, and Ta, into a single-crystal device material having a predetermined shape in a predetermined direction, wherein the single-crystal ingot or the single-crystal device material is polarized by applying a direct electric field of 350 to 1500 V/mm in the temperature range of 20 to 200°C in a direction to be polarized of the single-crystal ingot or in a direction to be polarized of the cut-out single-crystal device material; or applying a direct electric field of 350 to 1500 V/mm at a temperature higher than the Curie temperature ( $T_c$ ) of the single-crystal ingot or the single-crystal device material and then cooling to a room temperature while applying the direct electric field.

18. (Canceled)